REMARKS

Support for new claims 24-54 is found in the application, for example, as follows: claims 24 and 42 at page 8, lines 20-25; claim 25 at page 12, lines 18-21; claims 26, 27, 34 and 35 at page 7, line 1 and page 12, lines 10-11; claims 28 and 36 at page 11, lines 6-12; claims 29 and 37 at page 11, lines 2-3; claims 30 and 38 at page 12, lines 10-30; claim 31 at page 7, lines 6-8; claims 32 and 43 at places throughout the application; claim 33 at page 6, lines 23-25 and FIG. 1; claims 39, 40 and 46 at page 3, lines 25-26 and page 4, lines 1-9; claims 41 and 45 at originally-filed claim 7; claims 44 and 51 at page 5, lines 11-27; claims 47-50, 52 and 53 at page 12, lines 10-30; and claim 54 at page 7, lines 17-22. Support for the amendment to page 9 of the specification is found in originally-filed claim 7. Applicants look forward to receiving the next action in this application. Should there be any questions regarding this application, Examiner Gray is invited to contact the undersigned attorney at the telephone number shown below.

Respectfully submitted,

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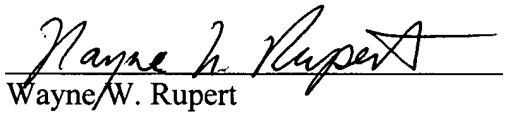
By 
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Marked-up Version of Amended Specification and Claims
Pursuant to 37 C.F.R. §§ 1.121(b)-(c)

In the specification:

The paragraph beginning at page 9, line 6, has been replaced with the following paragraph:

--The vacuum anvil roll 20 comprises a hub 45 mounted on a shaft 46. The hub is formed of metal or composite, especially cold rolled steel and may be coated with any nonstick material, for example, Impreglon #420, a non-stick industrial surface coating available from the DuPont Company, and officially known as "420-104." The adhesive surface of the tape 11 contacts about [180] 90 degrees to about 200 degrees of the surface of the vacuum anvil roll 20, preferably between 160 to 200 degrees of the surface of the vacuum anvil roll 20, and particularly about 180 degrees of the surface of the vacuum anvil roll 20. [.] The anvil roll 20 has a plurality of axially extending holes 48 formed in one end wall 49 of the hub 45. The holes 48 are positioned near the periphery of the roll and are spaced circumferentially to communicate with axial rows of holes 50, in the surface of the roll 20, extending radially into the hub 45 from the peripheral surface. The holes 50 form a foraminous surface about the peripheral surface and near the axial midpoint of the external surface of roll 20. Each row of holes 50 communicate with one of the holes 48 formed in an end wall 49 of the hub 45. In this manner, the holes 50 are subjected to the same pressures as the holes 48. Mounted against the end wall 49 of the hub 45, is a manifold 60. The manifold 60 has a grooved arcuate slot 61 extending about 90 to 180 degrees about its end wall adjacent axially to the end wall 49 of the hub 45, see Figures 1 and 5. The manifold 60 is supported in a fixed position by a bracket 63, and the slot 61 is positioned adjacent the path where the tape will engage the surface of the roll 20. The manifold 60 is also formed with a single axially extending bore 62 adjacent one end of the slot 61. This bore 62 is located in the manifold at the transition area where the leading end of the tape 11 is transferred from the vacuum anvil roll 20 to the vacuum wheel applicator 25. The slot 61 of the manifold is connected via openings in the manifold to a pump (not shown) which exhausts air from the slot 61. As the hub 45 of the vacuum roll 20 rotates, the holes 48 serially come into communication

with the slot 61 and the air is exhausted from the holes 48 and from the holes 50 creating a force against one side of the tape 11 which is less than atmospheric, a vacuum, and thus the atmospheric pressure holds the tape against the foraminous surface of the roll 20 in the area of the slot 61 as it rotates the holes 48 along the slot 61. Likewise, when a hole 48 moves past the slot 61 it is aligned axially with the bore 62, and that hole 48 is subjected to pressurized air, above atmospheric, and the air passes through the holes 48 progressively as the vacuum roll 20 is rotated past the transition area and the tape is lifted from the surface of the roll 20 and picked up by the surface of the vacuum wheel applicator 25. Air couplings are joined to the outboard side of the manifold 60 permitting air to be exhausted from the slot 61 and air to be forced under pressure into the bore 62. An air line of about 0.25 inch (0.635 cm) diameter can provide adequate air to blow the tape off the anvil roll 20. It will be readily understood that as the vacuum roll 20 rotates, the holes 48 become aligned or substantially aligned with the slot 61 and the holes 50 draw the tape 11 against the surface of the vacuum roll 20. This moves the tape along with the rotation of the anvil vacuum roll. When the holes 48 become aligned with the bore 62 air is forced radially outward through a row of the holes 50 against the tape 11 pushing it off the surface of the roll 20, forming the discharge means for the tape. During the continued rotation, the holes 48 are covered by the adjacent end wall of the manifold 60. The pressure holding the tape on the surface of the roll 20 over the holes 50 is not such that the roll 20 cannot move faster than the tape 11, allowing slippage of the tape 11 on the roll 20, which tape is held at a given speed by the feed roll 16.

In the claims:

The claims have been amended as follows:

13. (Amended) A tape feed assembly for feeding a predetermined length of tape [to] onto a substrate [for depositing said length of tape to a carton blank] in predetermined registry [therewith] with the substrate, said feed assembly comprising:

a feed roll for advancing tape from a supply thereof along a predetermined path at a first speed;

[a pressure roller for holding the tape in engagement with said feed roll;]

a vacuum roll with an anvil insert for accepting a said tape from said feed roll;

a drive for said vacuum roll to provide a predetermined peripheral speed thereof different than said first speed for advancing said tape toward [a said] an applicator in predetermined lengths;

a rotary knife having blade means engageable with said vacuum roll for cutting said tape against said vacuum roll; and

a motor controller means for changing said first speed and said predetermined speed to adjust the length of tape [passing] advancing on said vacuum roll before being cut by said rotary knife driven at said predetermined speed.

14. (Amended) A tape feed assembly according to claim 13, wherein said applicator comprises a vacuum wheel applicator for receiving said cut [length of] tape and placing [the same] said cut tape on a substrate, drive means for said vacuum wheel applicator to move a said cut tape from said vacuum roll to said substrate, drive means for rotating said vacuum wheel applicator, said vacuum roll drive means and said drive means for said vacuum wheel applicator affording peripheral speeds different than that of said feed roll, and an adjustable control for affording the desired length of tape to be dispensed and variations in the registration of said tape on a substrate.

15. (Amended) A tape feed assembly according to claim [13] 14 comprising a signal generator for detecting the movement of a said substrate and for controlling said adjustable control and motor control for operating said vacuum roll and said rotary knife to place the predetermined length of tape in the desired position on the substrate.

16. (Amended) A tape feed assembly according to claim [15 wherein said vacuum wheel applicator has] 13, further comprising an adhesion preparation means for preparing the length of tape as it is passed between said vacuum roll and the substrate.

17. (Amended) A tape feed assembly according to claim 16 wherein said adhesion preparation means [is] comprises a heater [means].

18. (Amended) A tape feed assembly according to claim 13, wherein said drive for said vacuum roll includes a line speed encoder, a programmable logic controller and motor controllers for the feed roll drive and for the vacuum roll drive to provide a tape drive speed [what] that will meet [the] at least one production run [requirements] requirement.